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| 09/400,609      | 09/20/1999  | HASSAN HAGIRAHIM     | HAGIRAHIM5-4        | 3602             |

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EXAMINER

SWICKHAMER, CHRISTOPHER M

ART UNIT PAPER NUMBER

2697

DATE MAILED: 03/24/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

11

# Office Action Summary

Application No.

09/400,609

Applicant(s)

HAGIRAHIM ET AL.

Examiner

Christopher M Swickhamer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Reconsideration***

This Office Action is in response to the reconsideration filed on 02/19/03. Claims 1-20 are pending. Currently none of claims 1-20 are in condition for allowance.

**DETAILED ACTION**

***Specification***

1. The disclosure is objected to because of the following informalities: the items referred to as being in figure 5 of the specification are in figure 4, and the items referred to as being in figure 4 in the specification are actually in figure 5.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1,2,5,6,8,11-14,16,18-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Kowtha from the IEEE Proceedings on the ATM Workshop, May 1999. The paper is titled *Encapsulating ATM cells in TCP/IP for transport between ATM based Backbone and End-User Terminals, to enable Real-Time Network-Aware Services*. Referring to Claim 1, Kowtha discloses a method for transporting ATM cells over a local IP network (pg. 195, last paragraph) that routes cells based on virtual path information and virtual channel information (VPI/VCI, pg.

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198, 3.3 ATM/IP server). The system comprises an ATM/IP client (destination gateway) and an ATM/IP server (source gateway and controller, pg. 196, last paragraph) interconnected to the IP Network (IP backbone, figure 1, pg 202). The server and client have shim layers that initiate and maintain a TCP connection between the server and client. The shim layer is also used for encapsulation and extraction (decapsulation) of ATM cells into IP packets (pg. 195, last paragraph, pg. 197, first two lines). The ATM/IP server maintains a routing table consisting of client TCP port numbers, and VCI/VPI assignments that belong to that client (translate ATM destination address to a corresponding destination gateway address, pg. 198, paragraph 6).

- Referring to Claim 2, Kowtha discloses that the shim layer initiates and maintains a connection between the client and server via a content identifier within the TCP segment of the IP packet (IP signaling message to controller upon receipt of ATM signaling message, 3.1 Shim layer, table on page 197).

- Referring to Claim 5, Kowtha discloses all of the limitations of Claim 1, where the system transmits ATM cells within the TCP/IP datagram (TCP/IP headers to form the IP packet, pg. 195, last paragraph).

- Referring to Claim 6, Kowtha discloses all of the limitations of Claim 1, where UDP/IP headers can be used to form the IP packet (pg. 196, third full paragraph).

- Referring to Claim 8, Kowtha discloses a method for transporting ATM signaling and ATM bearer cells over a local IP network. The system uses VPI/VCI information contained in the ATM cells to obtain destination information, and the server maintains routing tables of acceptable destinations for the IP packets (pg. 198, 3.3 ATM/IP server). The system comprises an ATM/IP client (destination gateway) and an ATM/IP server (source gateway and controller,

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pg. 196, last paragraph) interconnected to the IP Network (IP backbone, figure 1, pg 202). The server and client have shim layers for encapsulation and extraction (decapsulation) of ATM cells into IP packets (pg. 195, last paragraph, pg. 197, first two lines). The ATM/IP server maintains a routing table consisting of client TCP port numbers, and VCI/VPI assignments that belong to that client (translate ATM destination address to a corresponding destination gateway address, pg. 198, paragraph 6). Kowtha discloses that the shim layer initiates and maintains a TCP connection between the client and server via a content identifier within the TCP segment of the IP packet (IP signaling message to controller upon receipt of ATM signaling message, 3.1 Shim layer, table on page 197).

- Referring to Claim 11, Kowtha discloses all of the limitation of Claim 8, where the system transmits the ATM cell with the TCP/IP datagram (TCP/IP headers to form the IP packet, pg. 195, last paragraph).

- Referring to Claim 12, Kowtha discloses all of the limitations of Claim 8, where UDP/IP headers can be used to form the IP packet (pg. 196, third full paragraph).

- Referring to Claim 13, Kowtha discloses a method for transporting ATM cells over an IP backbone where when the server receives the ATM signaling cells, the shim layer initiates a TCP connection (receives an ATM signaling cell at the source gateway and converts ATM signal to an IP signaling packet, 3.1 ATM/IP Shim Layer, pg 197), the server inspects the VCI address from the incoming ATM cells and uses it to route the packet to a corresponding IP address (translates VCI address to a corresponding IP address, pg. 198 3.3 ATM/IP Server). The shim layer encapsulates the cells with IP headers to form IP packets (3.1 ATM/IP Shim layer, pg. 197) and the server transmits the IP packets onto an IP network (pg. 198, first paragraph).

- Referring to Claim 14, Kowtha discloses all of the limitations of Claim 13, where the shim layer informs the server the identity of the client and its corresponding IP address (destination address, pg. 198, paragraph 7).

- Referring to Claim 16, Kowtha discloses all of the limitation of Claim 13, where the shim layers at the client and server initiates and maintains a connection corresponding to their respective IP addresses (signaling message according to a translated IP address, pg. 199, first paragraph).

- Referring to Claim 18, Kowtha discloses all of the limitation of Claim 13, where the IP packet is encoded for a TCP protocol (pg. 195, last paragraph).

- Referring to Claim 19, Kowtha discloses all of the limitation of Claim 13, where the packet is encoded for the UDP protocol (pg. 196, third full paragraph).

- Referring to Claim 20, Kowtha discloses a method for transporting ATM cells over an IP backbone where ATM/IP server receives ATM cells with VPI/VCI information, and the shim layer initiates and maintains a TCP connection between the client and server (receives an ATM signaling cell at the source gateway and converts ATM signal to an IP signaling packet, 3.1 ATM/IP Shim Layer, pg 197), the server receives an ATM signaling cell with a virtual channel information element and a virtual path element (VPI/VCI). The server runs an ATM/IP daemon that listens for a call request. The client sends its identification, which includes its IP address, TCP port number, and its ATM address to the server (transmitting location request, registering ATM destination address for translation to an IP address, transmitting virtual path and virtual channel information, pg 199, first two paragraphs). The server stores the destination address in a routing table. The shim layer initiates and maintains the TCP connections, which includes

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transmission of acknowledgement message and a connect message from the client to the server.

The shim layer also pings the server and client to verify that the connection is still functioning

(3.1 ATM/IP Shim Layer, pg. 197).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowtha in view of Li et al (U.S. Patent No. 6,195,714). Referring to Claim 3, Kowtha discloses all of the limitations of Claims 1 and 2 as set forth above, but does not expressly disclose the ATM signaling to be an ATM UNI signaling message. Li discloses sending packets through a network using ATM UNI signaling. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with ATM UNI signaling. One of ordinary skill in the art would have been motivated to do this since ATM UNI is a standard ATM signaling message protocol (col. 7, lns. 42-43).

- Referring to Claim 7, Kowtha discloses all of the limitations of Claim 1 as set forth above, where the shim transmits a message (3.1 ATM/IP Shim Layer, pg 197), via an intermediate protocol between the client and server (pg. 195, last paragraph) to the client upon receipt of a signaling message from the controller (3.1 ATM/IP Shim Layer, pg 197), but does not expressly disclose the ATM signaling to be an ATM UNI signaling message. Li discloses sending packets through a network using ATM UNI signaling. At the time the invention was

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made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with ATM UNI signaling. One of ordinary skill in the art would have been motivated to do this since ATM UNI is a standard ATM signaling message protocol (col. 7, lns. 42-43).

- Referring to Claim 9, Kowtha discloses all of the limitations of Claims 1 and 2 as set forth above, but does not expressly disclose the ATM signaling to be an ATM UNI signaling message. Li discloses sending packets through a network using ATM UNI signaling. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with ATM UNI signaling. One of ordinary skill in the art would have been motivated to do this since ATM UNI is a standard ATM signaling message protocol (col. 7, lns. 42-43).

6. Claims 4, 10, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowtha in view of Civanlar et al (U.S. Patent No. 6,339,594). Referring to Claim 4, Kowtha discloses all of the limitations of Claims 1 and 2 as set forth above, but does not expressly disclose that the IP signaling follows the H.323 protocol. Civanlar discloses a transmission system that follows the H.323 standard when communicating between different types of networks such as connectionless and connect-oriented switched networks. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with the H.323 standard. One of ordinary skill in the art would have been motivated to do this since the H.323 standard is used for PCs that communicate through the Internet for communication with each other on the same LAN or across routed data networks (col. 2, lns 52-55).



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- Referring to Claim 10, Kowtha discloses all of the limitations of Claim 8 as set forth above, but does not expressly state that the IP signaling packet follows the H.323 protocol. Civanlar discloses a transmission system that follows the H.323 standard when communicating between different types of networks such as connectionless and connect-oriented switched networks. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with the H.323 standard. One of ordinary skill in the art would have been motivated to do this since the H.323 standard is used for PCs that communicate through the Internet for communication with each other on the same LAN or across routed data networks (col. 2, lns 52-55).

- Referring to Claim 15, Kowtha discloses all of the limitations of Claims 13 and 14 as set forth above, but does not expressly state that the IP signaling packet follows the H.323 protocol. Civanlar discloses a transmission system that follows the H.323 standard when communicating between different types of networks such as connectionless and connect-oriented switched networks. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with the H.323 standard. One of ordinary skill in the art would have been motivated to do this since the H.323 standard is used for PCs that communicate through the Internet for communication with each other on the same LAN or across routed data networks (col. 2, lns 52-55).

- Referring to Claim 17, Kowtha discloses all of the limitations of Claims 13 and 16 as set forth above, but does not expressly state that the signaling message to the client uses the Q.2931 signaling format. Civanlar discloses a transmission system that follows the Q.2931 format for call controls over a new ITU-T standard known as H.225 (for H.323 terminals). At

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the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the ATM over IP transmission system of Kowtha, with the Q.2931 format. One of ordinary skill in the art would have been motivated to do this since the Q.2931 format is used for call signaling in ATM networks (col. 2, lns. 61-62).

### ***Response to Arguments***

7. Applicant's arguments filed 02/19/03 have been fully considered, but they are not persuasive. In the last paragraph on the first page of applicants' remarks (pg. 1, lns. 9-12), the applicant states that Kowtha is directed at ATM backbones and local IP networks, and that the present invention claims the opposite: an IP backbone and local ATM network. The Examiner respectfully disagrees. In the background of the invention for the present application, the applicant states that the issue at hand necessitating the invention is that ATM traffic cannot be handled by an IP Network (pg. 2, ln. 3). The Kowtha reference describes a method of encapsulation to send ATM cells over an IP network. The claims are directed toward the setup and execution of sending ATM cells over an IP network, which is also what the Kowtha reference teaches. The interpretation of the Examiner is that the IP Network of Kowtha, and the IP backbone can be viewed similarly. Thus Kowtha anticipates the present invention.

- In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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- In reference to the argument on the second page, first paragraph of the remarks (pg. 2, lns. 1-3), the applicant states that the Civanlar reference terminates bearer traffic, and that the present invention encapsulates ATM cells which include a destination address into IP packets for transmission to an IP backbone network. The Examiner respectfully disagrees. This argument is piecemeal analysis. The Examiner uses the Civanlar invention in combination with Kowtha to reject claims 4, 10, 15, and 17. Civanlar teaches establishing communications between connectionless and connect-oriented systems, such as IP and ATM respectively. The reference refers to using signaling standards for call setup and signaling, as used in the present application.

- In reference to the argument on the second page, second paragraph of the remarks (pg. 2, ln. 4-5), the applicant states that the Li reference is directed at gateways used to convert between STM and ATM traffic, and that the present invention is directed at converting between ATM and IP networks. The Examiner respectfully disagrees. This argument is piecemeal analysis. The Examiner uses the Li reference in combination with Kowtha to reject claims 3, 7 and 9. Li discloses using ATM UNI signaling in conjunction with networks of different types, as used in the present application.

- The Examiner therefore concludes the rejections to claims 1-20 under 102(a) and 103(a) stand.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tree, Phillip, Department of Computer Science, University of Waikato. *Network Simulation of IP and ATM over IP using a Discrete Event Simulator*. This reference teaches using centralized control and converters between ATM to IP to transmit ATM cells over IP backbones (Fig. 1.1, page 5, pg. 18-20).
- Toga et al, Telecommunication Standardization Sector. *Experts Group for Video Coding and Systems in ATM and other Network Environments*.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M Swickhamer whose telephone number is (703) 306.4820. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305.4798. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308.9571 for regular communications and (703) 827.9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305.3900.

CMS

March 10, 2003

A handwritten signature in black ink, appearing to read 'Ricky Ngo', is positioned above the printed name and title.

**RICKY NGO**  
**PRIMARY EXAMINER**